

10/534651

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PTO/SB/08a/b (08-03)

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Substitute for form 1449A/B/PTO				Complete If Known	
				Application Number	Not Yet Assigned
				Filing Date	May 12, 2005
				First Named Inventor	Rodney Brian Hargreaves
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	ASZD-P01-898

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (#known)	MM-DD-YYYY		

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (#known)	MM-DD-YYYY		
AM	BA	WO-02/024682 A	03-28-2002		
	BB	WO-00/026202 A	05-11-2000		
	BC	WO-02/46173 A	06-13-2002		
	BD	WO-00/58293 A	10-05-2000		
AM	BE	WO-03/082838 A	10-09-2003		

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.18 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue numbers), publisher, city and/or country where published.			T <sup>6</sup>
AM	CA	Kar, "Cinchophen Analogues as Potential CNS Agents," Journal of Pharmaceutical Sciences, American Pharmaceutical Association 72(9):1082-1084 (1983)			
	CB	Mein, Database Crossfile Beilstein 'Onlinel Beilstein Institut Zur Foerderung Der Chemischen Wissenschaften, Database accession no. 6511458(BRN) XP002272206 abstract and Indian J. Chem. Sect., 25(9):886 (1986)			
	CC	Kudrl, "Enamine Product Listing," Database Chemcats 'Onlinel Chemical Abstract Service, XP002272448 Order Number: T0505-1260, T0504-9244 (2001)			
	CD	Kennedy, "Interchim Intermediated," Database Chemcats 'Onlinel Chemical Abstracts Service XP002272449 (2002)			
AM	CE	Edmont et al., "Synthesis and evaluation of quinoline carboxyguanidines as antidiabetic agents," Bioorganic & Medicinal Chemistry Letters 10(16):1831-1834 (2000)			
AM	CF	PCT/GB03/04915 International Search Report (3/31/04)			

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Examiner Signature	AM Jeanns	Date Considered	3/17/2006
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**Complete If Known**

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				Application Number	10/534651
				Filing Date	May 12, 2005
				First Named Inventor	Rodney Brian Hargreaves
				Art Unit	1615
				Examiner Name	Not Yet Assigned
Sheet	1	of	4	Attorney Docket Number	ASZD-P01-898

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
BB	AA*	US-6,613,942	09-02-2003		

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
BB	BA	WO-00/026202-A1	05-11-2000	Pharmacia & Upjohn S.P.A.		
	BB	WO-00/58293-A1	10-05-2000	F. Hoffmann-La Roche AG		
	BC	WO-01/20327-A1	03-22-2001	AstraZeneca AB		
	BD	WO-01/44216-A1	06-21-2001	F. Hoffman-La Roche AG		
	BE	WO-01/83465-A2	11-08-2001	F. Hoffman-La Roche AG		
	BF	WO-01/83478-A2	11-08-2001	F. Hoffman-La Roche AG		
	BG	WO-01/85706-A1	11-15-2001	F. Hoffman-La Roche AG		
	BH	WO-01/85707-A1	11-15-2001	F. Hoffman-La Roche AG		
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	BJ	WO-02/024682-A1	03-28-2002	Janssen Pharmaceutica N.V.		
	BK	WO-02/064545-A1	08-22-2002	Aventis Pharma Deutschland GMBH		
	BL	WO-02/08209-A1	01-31-2002	F. Hoffman-La Roche AG		
	BM	WO-02/14312-A1	02-21-2002	F. Hoffman-La Roche AG		
	BN	WO-02/46173-A1	06-13-2002	F. Hoffman-La Roche AG		
	BO	WO-02/48106-A2	06-20-2002	F. Hoffman-La Roche AG		
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	BQ	WO-03/000267-A1	01-03-2003	AstraZeneca AB		
	BR	WO-03/015774-A1	02-27-2003	AstraZeneca AB		
	BS	WO-03/022856-A1	03-20-2003	Pharmacia & Upjohn Company		
	BT	WO-03/028641-A2	04-10-2003	Taisho Pharmaceutical Co., Ltd.		
	BU	WO-03/047626-A1	06-12-2003	Novo Nordisk A/S		
	BV	WO-03/048152-A2	06-12-2003	Tularik Inc.		
	BW	WO-03/055482-A1	07-10-2003	Novo Nordisk A/S		
	BX	WO-03/080585-A1	10-02-2003	Banyu Pharmaceutical Co., Ltd.		
	BY	WO-03/082838-A1	10-09-2003	Shanghai Institute of Materia Medica		
	BZ	WO-03/095438-A1	11-20-2003	F. Hoffman-La Roche AG		
	BA1	WO-03/097824-A1	11-27-2003	Banyu Pharmaceutical Co., Ltd.		
	BB1	WO-04/002481-A1	01-08-2004	Novo Nordisk A/S		
	BC1	WO-04/045614-A1	06-03-2004	AstraZeneca AB		
	BD1	WO-04/046139-A1	06-03-2004	AstraZeneca AB		
	BE1	WO-04/050645-A1	06-17-2004	Novartis AG		
	BF1	WO-04/052869-A1	06-24-2004	F. Hoffman-La Roche AG		
	BG1	WO-04/063179-A1	07-29-2004	Eli Lilly and Company		
	BH1	WO-04/063194-A1	07-29-2004	Eli Lilly and Company		

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INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(Use as many sheets as necessary)

				Complete If Known
Application Number				10/534651
Filing Date				May 12, 2005
First Named Inventor				Rodney Brian Hargreaves
Art Unit				1615
Examiner Name				Not Yet Assigned
Sheet	2	of	4	Attorney Docket Number
				ASZD-P01-898

BI1	WO-04/072031-A2	08-26-2004	Osi Pharmaceuticals, Inc.	
BJ1	WO-04/072066-A1	08-26-2004	Osi Pharmaceuticals, Inc.	
BK1	WO-04/076420-A1	09-10-2004	Banyu Pharmaceutical Co., Ltd.	
BL1	WO-04/081001-A1	09-23-2004	Banyu Pharmaceutical Co., Ltd.	
BM1	WO-04/110375-A2	12-23-2004	Merck & Co., Inc.	
BN1	WO-05/044801-A1	05-19-2005	AstraZeneca AB	
BO1	WO-05/049019-A1	06-02-2005	Novo Nordisk A/S	
BP1	WO-05/054200-A1	06-16-2005	AstraZeneca AB	
BQ1	WO-05/054233-A1	06-16-2005	AstraZeneca AB	
BR1	WO-05/056530-A1	06-23-2005	AstraZeneca AB	
BS1	EP-1336607-A1	08-20-2003	Novo Nordisk A/S	
BT1	GB-2385328-A	08-20-2003	F. Hoffmann-La Roche AG	
BU1	JP-09040557 A	02-10-1997	Tanabe Seiyaku Co. Ltd.	
BV1	JP-2000086657 A	03-28-2000	Teikoku Homone Mfg. Co.	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \* CITE NO.: Those application(s) which are marked with an single asterisk (\*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(ii)) because that application was filed after June 30, 2003 or is available in the IFW. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 801.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		
MM	CA	Alvarez et al., "Evidence that Glucokinase Regulatory Protein Is Expressed and Interacts with Glucokinase in Rat Brain," Journal of Neurochemistry 80:45-53 (2002)		T <sup>2</sup>
	CB	Alvarez et al., "Expression of the Glucagon-Like Peptide-1 Receptor Gene in Rat Brain," Journal of Neurochemistry 66(3):920-927 (1996)		
	CC	Bell et al., "Glucokinae Mutations, Insulin Secretion, and Diabetes Mellitus," Annu. Rev. Physiol. 58:171-186 (1996)		
	CD	Brocklehurst et al., "Stimulation of Hepatocyte Glucose Metabolism by Novel Small Molecule Glucokinase Activators," Diabetes 53:535-541 (2004)		
	CE	Caro et al., "Liver Glucokinase: Decreased Activity in Patients with Type II Diabetes," Horm. Metab. Res. 27:19-22 (1995)		
	CF	Christesen et al., "The Second Activating Glucokinase Mutation (A456V) Implications for Glucose Homeostasis and Diabetes Therapy," Diabetes 51:1240-1246 (2002)		
	CG	Corbett, "Track 3 - Mastering Medicinal Chemistry: Applying Organic Chemistry to Biological Problems, Success Stories in Medicinal Chemistry," Molecular Medicine Tri-Conference, Moscone West Convention Center, San Francisco California, 3/26/05 - 11:00-11:30 Glucokinase Activators: Discovery of Novel, Orally Active Glucose Lowering Agents, March 24-26, 2004		
	CH	DeFronzo, "The Triumvirate: $\beta$ -Cell, Muscle, Liver - A Collusion Responsible for NIDDM," Diabetes 37:667-687 (1988)		
MM	CI	Desai et al., "Phenotypic correction of Diabetic Mice by Adenovirus-Mediated Glucokinase Expression," Diabetes 50:2287-2295 (2001)		

Examiner Signature	MM	Date Considered	3/17/2004
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				First Named Inventor	Rodney Brian Hargreaves
				Art Unit	1615
				Examiner Name	Not Yet Assigned
Sheet	3	of	4	Attorney Docket Number	ASZD-P01-898

	CJ	Ferre et al., "Correction of Diabetic Alterations by Glucokinase," Proc. Natl. Acad. Sci. USA 93:7225-7230 (1996)	
	CK	Froguel et al., "Familial Hyperglycemia Due to Mutations in Glucokinase - Definition of a Subtype of Diabetes Mellitus," The New England Journal of Medicine 328(10):697-702 (1993)	
	CL	Fujimoto et al., "Administration of D-Glucosamine into the Third Cerebroventricle Induced Feeding Accompanied by Hyperglycemia in Rats," Life Sciences 37(26):2475-2482 (1985)	
	CM	Glaser et al., "Familial Hyperinsulinism Caused by an Activating Glucokinase Mutation," The New England Journal of Medicine 338(4):226-230 (1998)	
	CN	Grimsby et al., "Allosteric Activators of Glucokinase: Potential Role in Diabetes Therapy," Science 301:370-373 (2003)	
	CO	Grimsby, "Glucokinase Activators - Potential Treatment for Type 2 Diabetes," Roche - SMI Diabetes London UK pgs. 28-29 (2002)	
	CP	Kurata et al., "D-Glucose Suppression of Eating After Intra-Third Ventricle Infusion in Rat," Physiology & Behavior 37:615-620 (1986)	
	CQ	Kurata et al., "Structural Evaluation of Glucose Analogues on Feeding Elicitation in Rat," Metabolism 38(1):46-51 (1989)	
	CR	Levin et al., "Brain Glucose Sensing and body Energy Homeostasis: Role in Obesity and Diabetes," A. J. of Physiology 276:R1223-R1231 (1999)	
	CS	Levin et al., "Differential Effects of Diet and Obesity on High and Low Affinity Sulfonylurea Binding Sites in the Rat Brain," Brain Research 739:293-300 (1996)	
	CT	Levin et al., "In vivo and In vitro Regulation of [ <sup>3</sup> H] Glyburide Binding to Brain Sulfonylurea Receptors in Obesity-Prone and Resistant Rats by Glucose," Brain Research 776:146-153 (1997)	
	CU	Levin et al., "Reduced Glucose-Induced Neuronal Activation in the Hypothalamus of Diet-Induced Obese Rats," Brain Research 808:317-319 (1998)	
	CV	Levin, "Glucosensing Neurons do More Than Just Sense Glucose," International Journal of Obesity 25(5):S68-S72 (2001)	
	CW	Lynch et al., "Localization of Glucokinase Gene Expression in the Rat Brain," Diabetes 49:693-700 (2000)	
	CX	McKerrecher et al., "Discovery, Synthesis and Biological Evaluation of Novel Glucokinase Activators," Bioorganic & Medicinal chemistry Letters 15:2103-2106 (2005)	
	CY	Mobbs et al., "Brain Glucose-Sensing Mechanisms: Ubiquitous Silencing by Aglycemia vs. Hypothalamic Neuroendocrine Responses," Am. J. Physiol. Endocrinol. Metab. 281:E649-E654 (2001)	
	CZ	Moore et al., "Acute Fructose Administration Improves Oral Glucose Tolerance in Adults with Type 2 Diabetes," Diabetes Care 24(11):1882-1887 (2001)	
	CA1	Printz et al., "Mammalian Glucokinase," Annu. Rev. Nutr. 13:463-496 (1993)	
	CB1	Qian-Cutrone et al., "Glucolipin A and B, Two New Glucokinase Activators Produced by <i>Streptomyces purpurogenicleroticus</i> and <i>Nocardia vaccinii</i> ," The Journal of Antibiotics 52(3):245-255 (1999)	
	CC1	Roncero et al., "Functional Glucokinase Isoforms are Expressed in Rat Brain," Journal of Neurochemistry 74(5):1848-1857 (2000)	
	CD1	Rowe et al., "Potassium Channel Dysfunction in Hypothalamic Glucose-Receptive Neurones of Obese Zucker Rats," Journal of Physiology 497(2):365-377 (1996)	
	CE1	Schuit et al., "Perspectives in Diabetes - Glucose Sensing in Pancreatic $\beta$ -Cells - A Model for the Study of Other Glucose-Regulated Cells in Gut, Pancreas, and Hypothalamus," Diabetes 50:1-11 (2001)	

Examiner Signature		Date Considered	8/17/2006
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<i>[Signature]</i>	CF1	Seoane et al., "Glucokinase Overexpression Restores Glucose Utilization and Storage in Cultured Hepatocytes from Male Zucker Diabetic Fatty Rats," The Journal of Biological Chemistry 274(45):31833-31838 (1999)	
	CG1	Shiota et al., "Glucokinase Gene Locus Transgenic Mice are Resistant to the Development of Obesity-Induced Type 2 Diabetes," Diabetes 50:622-629 (2001)	
	CH1	Spanswick et al., "Insulin Activates ATP-Sensitive K <sup>+</sup> Channels in Hypothalamic Neurons of Lean, but Not Obese Rats," Nature Neuroscience 3(8):757-758 (2000)	
	CI1	Spanswick et al., "Leptin Inhibits Hypothalamic Neurons by Activation of ATP-Sensitive Potassium Channels," Nature 390:521-525 (1997)	
	CJ1	Velho et al., "Impaired Hepatic Glycogen Synthesis in Glucokinase-Deficient (MODY-2) Subjects," J. Clin. Invest. 98:1755-1761 (1996)	
	CK1	Yang et al., "Hypothalamic Glucose Sensor - Similarities to an dDifferences from Pancreatic β-Cell Mechanisms," Diabetes 48:1763-1772 (1999)	
<i>[Signature]</i>	CL1	Carroll et al., "Stress, Signalling and Control," Biochemical Society Meeting 679 2-4 July 2003	

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